DOCUMENT RESUME

ED 086 854 95 CE 000 888

AUTHOR Boadway, Edwin
TITLE Radio-T.V. Repair; Glossary of Key Words. Vocational Reading Power Project, Title III, E.S.E.A.
INSTITUTION Oakland County Schools, Pontiac, Mich.
SPONS AGENCY Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D.C.; Michigan State Dept. of Education, Lansing.
REPORT NO MDE-0671
PUB DATE Nov 72
NOTE 33p.; For related documents, see CE 000 872-887, CE 000 889-891

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS *Definitions; *Glossaries; *Radio Technology; *Technical Education; *Television Repairmen; Vocational Education
IDENTIFIERS Elementary Secondary Education Act Title III; ESEA Title III

ABSTRACT

The glossary is one of twenty in various subject areas of vocational education designed to assist the student in vocabulary mastery for particular vocational education courses. They are part of the Vocational Reading Power Project, Title III, E.S.E.A. This glossary is for a course in radio-television repair. It is divided into two parts: one provides the student with two definitions for each term listed; the second part lists the same words with space for the student's definition. It is intended that upon completion of the course, mutually agreeable definitions for each term will be arrived at by the instructor and the students. These definitions will be made available to future students taking the course. (AG)

RADIO - T.V. REPAIR
Glossary of Key Words

Vocational Reading Power
ESEA Title III

Prepared by: Edwin Boadway
Instructor Radio - TV
Northwest Oakland Area
Vocational Education Center

Vocational Reading Power Project
Title III, E.S.E.A.
Roy J. Butz, Ed.D.
J. Kenneth Cerny, Ed.D.
Jules H. Shrage
Lawrence J. Shepanek
Lynne E. Wick

Oakland Schools

2100 Pontiac Lake Road
Pontiac, Michigan 48054
313-338-1101

The preparation of this material was
supported by U.S.O.E. Grant M.D.E. 0671

To The Student

This Glossary of Key Words was prepared to help you in your course. The words that follow were judged by your instructor to be the most important for you to understand.

Directions

The Glossary is divided into two parts. The first part lists the key words at the left side of the page. Across from the key words are two definitions for that word. The "A" definition is more difficult and specific. The "B" definition is easier and more general. During a learning activity, you are to use both definitions to help you understand. After the learning activity, you are to write your definition of the word as you understand it.

The second part just lists words. There is space for you to write your understanding of those words. Also, at the end of the booklet are blank lines. Here, you and your instructor will list and define the words which were left out.

At the end of the course, your definitions and the instructor's definitions will be joined together. These will be printed and given to the students who come after you have graduated. It is hoped that, with your help, the future students of vocational education will be greatly benefited.

a) PRIMARY
b) SECONDARY

AC (ALTERNATING CURRENT)	a) Current flow in which the movement of electrons periodically reverse. b) A current of electrons that move first in one direction and then in the other.
AF (AUDIO FREQUENCY)	a) Frequencies corresponding to normal audible sound. Those frequencies from 15 to 20,000 hertz. b) The range of sound frequencies heard by the human ear roughly the range of 15 to 20,000 hertz.
AFC (AUTOMATIC FREQUENCY CONTROL)	a) A circuit that maintains the frequency of an oscillator within specified limits. b) A circuit that holds an oscillator to a specified frequency.
AGC (AUTOMATIC GAIN CONTROL)	a) A circuit that maintains a constant output signal with varying input levels. b) A circuit that holds a fixed output level while the input signal strength is changing.
ALIGNMENT	a) Adjustment of tuned circuits to give a desired frequency response. b) To adjust the tuned circuits of a receiver or transmitter for a desired signal output.
AM (AMPLITUDE MODULATION)	a) Modulating a transmitter by varying the strength of the RF carrier at an audio rate. b) A system of radio transmission in which the carrier wave is increased or decreased by an audio signal.
AMPLIFIER	a) An electronic circuit in which a small input signal controls a large output signal. b) An electronic circuit used to increase the strength of current, voltage or power.
ANTENNA	a) A conductor by which electromagnetic waves are sent out or received. b) A device for sending or receiving radio waves.
BIAS	a) Sets the operating point of a tube or transistor on its dynamic transfer characteristic curve. b) A fixed voltage placed on the control element of a tube or transistor that sets the operating point.
BLANKING PULSES	a) A high level video signal that cuts off the TV scanning beam during horizontal and vertical retrace. b) Cut off the electron beam on a TV screen during retrace.

AC
(ALTERNATING CURRENT)

AF
(AUDIO FREQUENCY)

AFC
(AUTOMATIC
FREQUENCY CONTROL)

AGC
(AUTOMATIC GAIN
CONTROL)

ALIGNMENT

AM
(AMPLITUDE
MODULATION)

AMPLIFIER

ANTENNA

BIAS

BLANKING PULSES

a) PRIMARY
b) SECONDARY

BLOCK DIAGRAMS	a) A simplified pictorial breakdown of a complete electronic device showing only the function of each circuit. b) An electronic device diagram where each major circuit is represented by a block.
BROADCAST BAND	a) The band of frequencies used in AM transmission extending from 535 to 1605 KHZ. b) The band of frequencies ranging from 535 to 1605 KHZ.
CAPACITOR (Abbreviated C)	a) A device consisting essentially of two conducting surfaces separated by an insulating material or dielectric, such as air, paper, oil or glass. b) A capacitor is made up of two metal plates separated by an insulator.
CARRIER	a) A wave of constant amplitude frequency and phase which can be modulated by changing amplitude, frequency or phase. b) A radio frequency wave that is able to carry information.
CATHODE	a) The negative element in a vacuum tube or semi conductor diode. b) The source of electrons in a vacuum tube.
CHARACTERISTIC CURVES	a) A graph plotted to show the relationship between changing values in an operating vacuum tube. b) A graph showing the amount of control and efficiency of a vacuum tube.
CHARGES	a) The basis of electrical current flow. Negative charge is a surplus of electrons, positive charge is a lack of electrons. b) A difference in electrical potential.
CHOKE	a) An inductor used as a filter element in a power supply to smooth out DC ripple. b) A coil used to smooth out power supply ripple.
CHROMINANCE	a) That portion of the composite color signal used to represent electrically the hues and saturation levels of the color in a televised scene. b) That part of the television signal that contains the brightness or black and white information.

BLOCK DIAGRAMS

BROADCAST BAND

CAPACITOR
(Abbreviated C)

CARRIER

CATHODE

CHARACTERISTIC
CURVES

CHARGES

CHOKE

CHROMINANCE

a) PRIMARY
b) SECONDARY

COLLECTOR	a) An element of a bipolar transistor that injects majority carriers into the base. b) The transistor element that supplies majority carriers for current conduction.
COLOR SYNE BURST	a) Eight or nine cycles of 3.58 MHZ signal riding on the back porch of the horizontal blanking pulse used to syne the receiver color oscillator. b) 3 58 MHZ signal used to syne the color oscillator.
CONDUCTION	a) A material having a large number of free electrons for current flow. b) A material that easily passes an electrical current.
CONTROL GRID	a) The grid in a vacuum tube closest to the cathode. The grid to which the input signal is fed. b) The vacuum tube element that controls vacuum tube conduction.
CONVERTERS	a) Mixes two input frequencies and produces an output containing the sum and difference of the two input frequencies. b) Same
CORE	a) A magnetic material placed within a coil to intensify the magnetic field. b) An iron material placed in a coil to concentrate the magnetic field.
CRYSTAL	a) A quartz material cut to resonate at a particular frequency. b) A piece of quartz ground in such a way that it vibrates at a specific frequency.
DC (DIRECT CURRENT)	a) The flow of electrons in one direction only, from negative to positive. b) The flow of electrons in one direction.
DEFLECTION (Television, Horizontal and Vertical)	a) Circuits related to a cathode ray tube that moves the beam across the screen. b) Movement of the electron beam across the face of a picture tube.
DEMODULATION	a) The process of removing the modulating signal from the carrier wave in a radio receiver. b) The process of removing intelligence from an RF carrier.

COLLECTOR

COLOR SYNE BURST

CONDUCTION

CONTROL GRID

CONVERTERS

CORE

CRYSTAL

DC
(DIRECT CURRENT)

DEFLECTION
(Television,
Horizontal and Vertical)

DEMODULATION

a) PRIMARY
b) SECONDARY

DIODE	a) A device consisting of an anode and a cathode that permits current to flow only when the anode is positive and the cathode is negative. b) An electronic device that passes current in one direction only.
DISTORTION	a) The deviations in amplitude phase and frequency between the input and output signals of an amplifier. b) A change in signal characteristic as the signal passes through an amplifier.
ELECTRON	a) An extremely small negatively charged particle. b) A negatively charged atomic partical.
EMISSION	a) The process of ejecting electrons from the surface of a material under the influence of heat, radiation or other causes. b) The process of driving out electrons from a heated cathode or filament.
EMF (ELECTRO-MOTIVE FORCE)	a) The property of a device which tends to produce an electric current in a circuit. b) Difference of electrical charge between two points of a circuit.
FILAMENT	a) The resistance wire which when an electric current is passed through it is heated to produce the emission of electrons. b) The source of heat in a vacuum tube that causes electron emission.
FREQUENCY	a) The number of complete cycles per unit of time for a periodic quantity such as alternating current, sound waves or vibrating objects. b) The number of times per second that an alternating signal repeats itself.
GERMANIUM	a) A grayish-white metallic element. b) An element frequently used as the basic material of a transistor.
GROUND	a) The potential in a part of a circuit (as a chassis of a radio set) which is zero in respect to other voltages and may or may not be at the potential of the earth. b) A common tie point such as a metal chassis.

DIODE

DISTORTION

ELECTRON

EMISSION

EMF
(ELECTRO-MOTIVE
FORCE)

FILAMENT

FREQUENCY

GERMANIUM

GROUND

a) PRIMARY
b) SECONDARY

HALF WAVE RECTIFIER	a) A rectifier that changes alternating current into pulsating current utilizing one-half of each cycle. b) A power supply using one diode with a ripple frequency of 60 pulses per second.
HEAT SINK	a) A finned metal enclosure around an electronic component to radiate heat away from the unit. b) An aluminum or copper mounting device to remove heat from a component.
HENRY	a) The measure of inductance of a circuit. (One Henry equals a current variation of one ampere per second inducing one volt.) b) The measure of circuit inductance.
HERTZ	a) A unit of frequency equal to one cycle per second. b) The name used to show frequency.
I.F. (INTERMEDIATE FREQUENCY)	a) Abbreviation for Intermediate Frequency. b) Letters standing for Intermediate Frequency.
IMPEDANCE	a) The total opposition to an alternating current presented by a circuit, containing resistance capacitance and inductance. b) The vector sum of resistance and reactance in an AC circuit.
INDUCTANCE	a) The ratio of increase in the magnetic flux of a circuit to the increase in the current producing it; expressed in Henrys and designated by L. b) The property of a coil to oppose any change in current through it, measured in Henrys and shown by an L.
INTER-CARRIER RECEIVER	a) A TV receiver that amplifies both the video and sound carrier in the same IF stages. b) A receiver that amplifies video and sound in the same IF stages.
LOUDSPEAKERS	a) An electronic device for converting electrical energy into sound. b) A device used to make electrical energy into sound.
MAGNETIC FIELDS	a) A magnetic field is any region in which the magnetic forces created by permanent magnet or a current-carrying conductor can be detected. b) The area surrounding a magnet.

HALF WAVE RECTIFIER

HEAT SINK

HENRY

HERTZ

I.F.
(INTERMEDIATE
FREQUENCY)

IMPEDANCE

INDUCTANCE

INTER-CARRIER
RECEIVER

LOUDSPEAKERS

MAGNETIC FIELDS

a) PRIMARY
b) SECONDARY

METER	a) An instrument or device used to measure quantity or variation in amount. b) A device used to measure electrical amounts.
METRIC SYSTEM	a) A system of measurements based on the (meter) using multiples of ten. b) A way to measure, using ten as the base.
MICROWAVE	a) A band of frequencies from one to 50 GHZ using special wave guides as conductors. b) Microwaves measure from one to 50 GHZ.
MU AMPLIFICATION FACTOR	a) In a vacuum tube, the ratio of a small change in plate voltage to a small change in grid voltage required to produce the same change in plate current, with all other valves held constant. b) A small change in plate voltage divided by a small change in grid voltage.
MULTIVIBRATOR	a) A relaxation oscillator in which the inphase feedback voltage is obtained from two electron tubes or transistors. b) A two-stage oscillator circuit where each stage controls the conduction of the other.
MUTUAL INDUCTANCE	a) The property that exists between two current-carrying conductors when the magnetic lines of force form one link with those of the other. b) The amount of magnetic flux from one coil that cuts a nearby coil.
NOISE	a) Unwanted modulation of an RF carrier by such things as lightening, electric motors or automobile ignition. b) Unwanted signals riding on an RF carrier.
OHM'S LAW	a) Expresses the relationships between the three basic quantities in an electrical circuit voltage, current and resistance. b) The voltage across an element of a DC circuit is equal to the current through the element in amperes multiplied by the resistance in Ohm's, $E=I \cdot R$.
OSCILLATOR	a) An electronic device which generates alternating current power at a frequency determined by the valve of certain components in the circuit. b) An amplifier with positive feedback that converts DC power to AC power.

METER

METRIC SYSTEM

MICROWAVE

MU AMPLIFICATION FACTOR

MULTIVIBRATOR

MUTUAL INDUCTANCE

NOISE

OHM'S LAW

OSCILLATOR

a) PRIMARY
b) SECONDARY

PEAKING COILS

a) A type of interstage coupling used to increase the high frequency response of an amplifier.
b) A coupling method used to broaden the frequency response of an amplifier.

PEAK INVERSE VOLTAGE

a) The peak AC voltage which a rectifier or PN junction will withstand in the reverse direction.
b) The maximum reverse voltage that a diode can withstand.

PEAK-TO-PEAK VALUES

a) The algebraic difference between the positive and negative maximum values of a waveform.
b) Measurement of a waveform from one extreme to the other.

PENTAGRID CONVERTER

a) A pentagrid tube used as a combination oscillator mixer and first detector in a superheterodyne receiver.
b) A five-grid tube used in the mixer oscillator stage of many radios.

PHASE

a) The relationship between two vectors in respect to angular displacement.
b) The relationship between two signals with reference to the same starting point.

PHASE SPLITTER

a) A device which produces from a single input wave, two or more output waves that differ in phase from one another.
b) A circuit that converts a single input signal to two output signals 180° out of phase with other.

PHONO PICK-UP

a) An electronic transducer used to convert the irregularities in a record groove into an electronic signal.
b) A device that converts the information in a record groove into a signal voltage.

PHOTOELECTRIC CELL

a) A light sensitive cell which translates variation in light into corresponding variations in electrical signals.
b) A material that changes resistance when exposed to light.

PICTURE TUBE

a) In television receivers, the cathode ray tube in which the electrical signals are charged into a visible picture.
b) The component of a television that displays the video or picture information.

PEAKING COILS

PEAK INVERSE VOLTAGE

PEAK-TO-PEAK VALUES

PENTAGRID CONVERTER

PHASE

PHASE SPLITTER

PHONO PICK UP

PHOTOELECTRIC CELL

PICTURE TUBE

a) PRIMARY
b) SECONDARY

PLATE	a) Often called the anode. It is the principle electrode to which the electron stream is attracted in an electron tube. b) The highly positive element in a vacuum tube that attracts most of the electrons from the cathode.
PRIMARY COLORS	a) Red, green, and blue colors which form the basis of the color television signal. By mixing proper amounts of each,white light is obtained. b) The colors red, green, and blue which form the basis of the color signal.
PULSE	a) The sudden rise and fall of a voltage of current. b) A quick rise and fall of a voltage or current.
PUSH-PULL AMPLIFIER	a) A two-stage amplifier that amplifies the same signal simultaneously and has one common output. b) An amplifier circuit that operates from two input signals, each 180° out of phase.
RASTER	a) The light emitted from a cathode ray picture tube resulting from activation of the phosphor coating. b) Light on the face of a television picture tube.
RECTIFICATION	a) The process of converting alternating current to direct current. b) Changing AC to DC.
REGULATION	a) In a power supply, the ability to maintain a constant load voltage or current despite changes in line voltage or load impedance. b) The change in power supply output voltage when the power supply load changes.
RESISTANCE	a) That property of a substance which impedes the current and results in the dissipation of the power in the form of heat. b) Opposition to current flow.
RESONANCE	a) A circuit condition whereby the inductive and capacitive reactance valves have been balanced. b) A circuit where capacitive reactance equals inductive reactance.

PLATE

PRIMARY COLORS

PULSE

PUSH-PULL AMPLIFIER

RASTER

RECTIFICATION

REGULATION

RESISTANCE

RESONANCE

a) PRIMARY
b) SECONDARY

RETRACE	a) Referring to a cathode ray tube it is the return of the scanning beam to its starting point after having reached the end of its trace. b) Returning the scanning beam of a CRT to its starting place.
RIPPLE	a) In a power supply output it is the excursions above and below the average peak amplitude. b) The AC component on the DC output of a power supply.
SATURATION	a) In a vacuum tube it is the point at which an increase in plate voltage results in little or no increase in plate current. b) Maximum possible plate current for a given tube.
SAWTOOTH	a) A voltage that varies between two valves in such a way that the waveshape resembles the teeth of a saw. b) A waveform that looks like the teeth of a saw.
SCR (SILICON CONTROLLED RECTIFIER)	a) Abbreviation for Silicon Controlled Rectifier which is a semiconductor switching device. b) A diode that can be made to conduct by a positive voltage control signal.
SCANNING	a) To pass a beam of light or electrons rapidly over every point of a CRT face. b) Movement of the electron beam back and forth across the face of a picture tube.
SECONDARY EMISSION	a) Electron emission due directly to the impact of electrons or ions. b) Same
SEMICONDUCTORS	a) One of a class of substances, such as germanium, silicon, and lead sulfide, whose electronic conductivity at ordinary temperatures is between that of a metal and an insulator. b) Elements that are neither good conductors or good insulators.
SIGNAL (Noise Ratio)	a) The ratio, at a given location, of some measure of the desired signal to the same measure of total noise. b) Ratio of signal strength to corresponding noise strength.

RETRACE

RIPPLE

SATURATION

SAWTOOTH

SCR
(SILICON CONTROLLED
RECTIFIER)

SCANNING

SECONDARY EMISSION

SEMICONDUCTORS

SIGNAL
(Noise Ratio)

a) PRIMARY
b) SECONDARY

SIGNALS	a) An electromagnetic impulse that transmits information whether direct or in code. b) A varying electrical current containing intelligence.
SYNCHRONIZATION (Television)	a) The operation whereby the television receiver picture is kept in step with the picture scanned by the camera. b) The maintaining of one operation in step with another.
TEMPERATURE COEFFICIENT	a) The increase or decrease of a quantity that is affected by temperature, owing to a unit change of temperature. b) The increase or decrease in electrical valves due to temperature change.
THERMAL RUNAWAY	a) The condition where increased temperature of a transistor causes excessive conductivity of the transistor material. b) An increase in transistor gain caused by the heat of current flowing through the transistor.
TRANSFORMER	a) Two coils electrically insulated from each other and wound upon a common core. Electrical energy is passed from one coil to the other through magnetic coupling. b) Two coils or inductors wound on a common core that pass energy through magnetic coupling.
TRANSMISSION LINE	a) A material structure forming a continuous path from one place to another, and used for directing the transmission of electromagnetic energy along this path. b) A conductor used to move electrical signals from one point to another.
TRANSISTOR	a) A miniature device for the control and amplification of an electron current, made of semiconducting materials, and having three or more electrodes. b) A three-element amplifying device made of semiconductor material.
TRAPS	a) A selective circuit network designed to block certain frequencies within a continuous band of frequencies. b) A circuit designed to stop certain frequencies.

SIGNALS

SYNCHRONIZATION
(Television)

TEMPERATURE
COEFFICIENT

THERMAL RUNAWAY

TRANSFORMER

TRANSMISSION LINE

TRANSISTOR

TRAPS

a) PRIMARY
b) SECONDARY

TRIMMER CAPACITORS	a) A small variable capacitor used in tuning circuits of radio receivers and other equipment to adjust capacitance valves during alignment so that all circuits can be tuned accurately by a single control. b) A small adjustable capacitor.
TUNED CIRCUIT	a) A coil capacitor circuit that can be preset to resonate at a desired frequency. b) A coil capacitor circuit that passes a specific band of frequencies.
UHF (ULTRA HIGH FREQUENCY)	a) The abbreviation for Ultra High Frequency, usually considered the band from 300 to 3,000 MHZ. b) Abbreviation for Ultra High Frequency.
VACUUM TUBE	a) A device consisting of an evacuated enclosure containing a number of electrodes between any two or more of which conduction of electricity through the vacuum takes place. b) A small enclosure with all air removed which can control the flow of electrons in an electronic circuit.
VESTIGIAL SIDE BAND	a) The transmitted portion of an amplitude-modulated wave after a sideband has been largely supressed by a filter having a gradual cutoff in the neighborhood of the carrier frequency. b) Removing a portion of one sideband of an amplitude modulated signal.
VIDEO	a) The picture signal in a television system. This term is generally applied to the signal as it exists at the output of a television camera, before the addition of synchronizing pulses. b) The picture signal in a television system.
WAVEFORMS	a) The pictorial representation of the shape of a wave, showing variations in amplitude with respect to time. b) A picture or graph of a signal voltage.
Y SIGNAL	a) The Y Signal represents the brightness of luminance variations of the color television picture. b) The brightness signal in a color television picture.
ZENER DIODE	a) A diode in which the reverse current remains small until the breakdown voltage is reached and then increased rapidly with little further increase in voltage. b) A diode that will maintain a fixed voltage drop, often used as a power supply regulator.

TRIMMER CAPACITORS

TUNED CIRCUIT

UHF
(ULTRA HIGH FREQUENCY)

VACUUM TUBE

VESTIGIAL SIDE BAND

VIDEO

WAVEFORMS

Y SIGNAL

ZENER DIODE

AC-DC Battery Power Supply

AM-FM Tuner

Aquadag Coating

Armature Coil

Band-Pass Filter

Band Switching

Beam Power Tubes

Beat-Frequency Oscillator

Blocking Oscillator

Buzz Control

Capacitive Coupling _____

_____

Carrier Current _____

_____

Cascode Amplifier _____

_____

Cathode-Ray Oscilloscope _____

_____

Centering Controls _____

_____

Coarse Frequency Control _____

_____

Color Codes _____

_____

Composition Resistor _____

_____

Converter Tube _____

_____

Cross Modulation _____

_____

D'Arsonval (Moving-Coil) Meter Movement _____

_____

Deflection Plates _____

_____

Degenerative Feedback _____

_____

Detector Stage _____

_____

Dipole Antenna _____

_____

Discriminator Stage _____

_____

Driver Stage _____

_____

Dropping Resistor _____

_____

Eddy Current _____

_____

EIZ (Electronic Industries Association) _____

_____

Electric Motor _____

_____

Electron Gun _____

_____

Electron Tubes _____

_____

Electrostatic Field _____

_____

Field Coils _____

_____

Filter Circuits _____

_____

Fine Frequency Adjustment _____

_____

Frequency Conversion _____

_____

Gas Filled Tubes _____

_____

Grid Bias _____

_____

High-Fidelity Amplifiers

Hybrid Receiver

Hysteresis Loss

Image Frequencies

Impedance Matching

Interelectrode Capacitance

Intermediate Frequency

Inverse Feedback

Iron-Core Transformer

Limiter Stage

Lines of Force

Magnetic Field

Metric System

Modulated Radio Wave

Multielectrode Tubes

Multiunit Tubes

Negative Charge

Output Transformer

Parallel Circuits

Phase Angle

Plate Load

Power Supply Filters

Power Transformer

Primary Winding

Regenerative Circuit

Root Mean Square

Screen Grid

Secondary Winding

Series Circuit

Side Bands

Sine Curve

Space Charge

Suppressor Grid

Tickler Coil

Voltage Divider

Volume Control

Wheatstone Bridge

Wide Band Amplifier

Width Control

Yoke (Deflection)